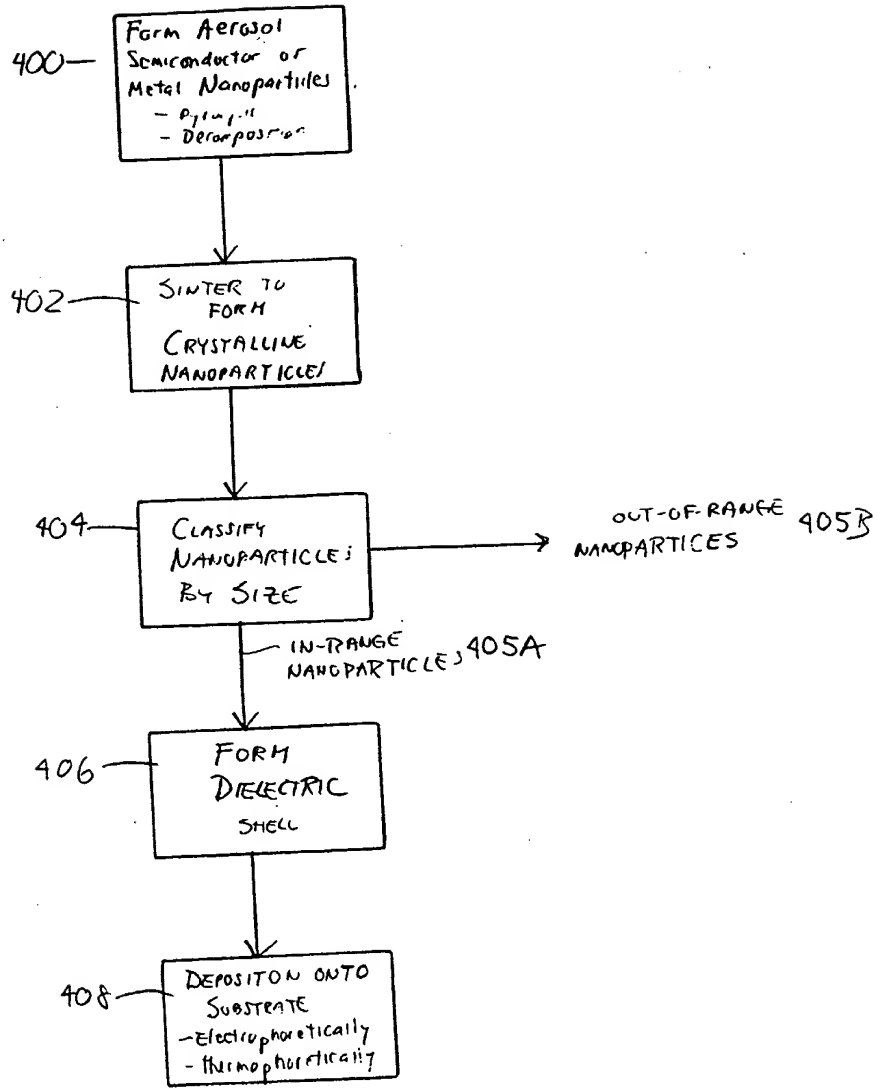
400
Form Aerosol Semiconductor or Metal Nanoparticles
- Pyrolysis
- Decomposition
402
SINTER TO FORM CRYSTALLINE NANOPARTICLES
404
CLASSIFY NANOPARTICLES BY SIZE
OUT-OF-RANGE NANOPARTICES 405B
IN-RANGE NANOPARTICLES 405A
406
FORM DIELECTRIC SHELL
408
DEPOSITON ONTO SUBSTRATE
-Electrophoretically
- thermophoretically

FIGURE 1

TO6250.T6756860

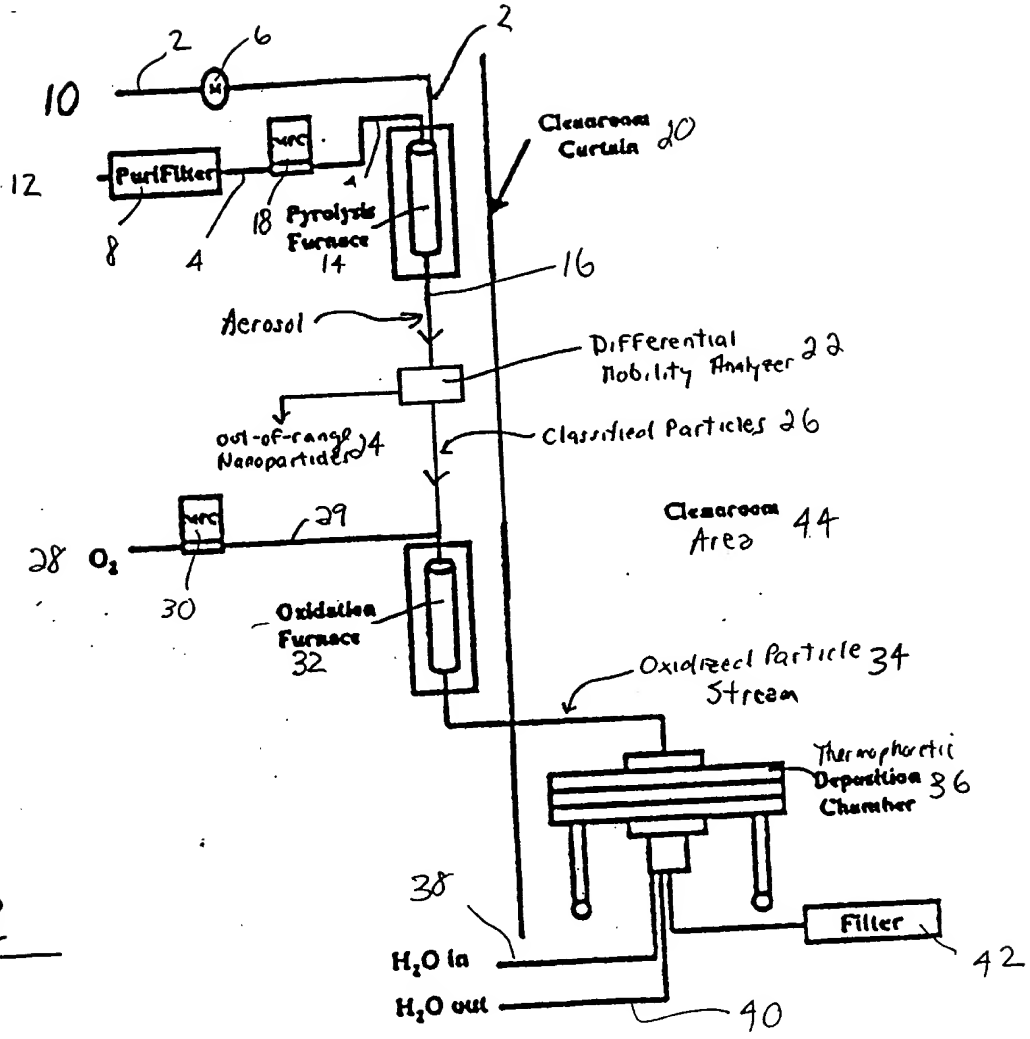

FIGURE 2

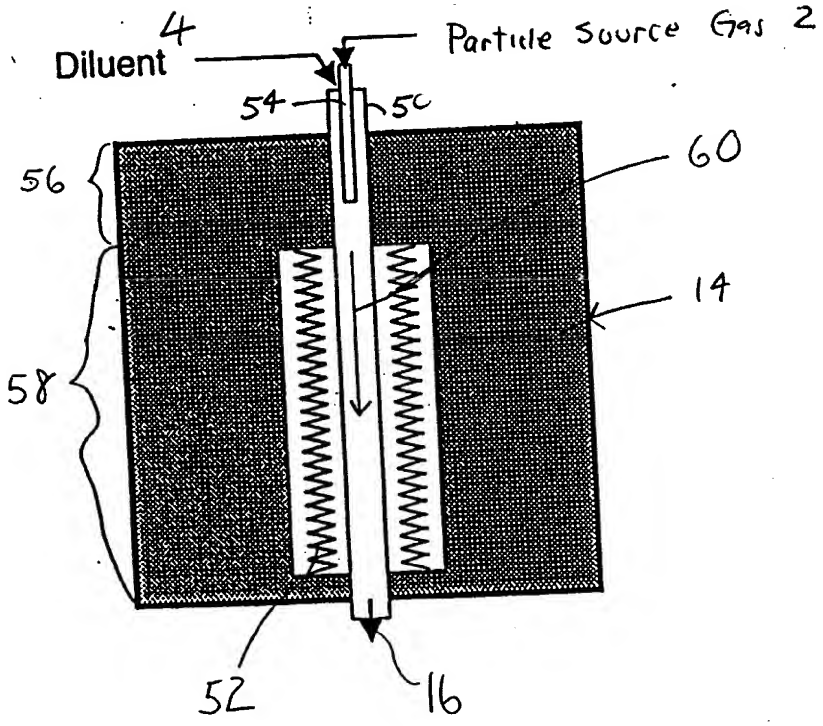

FIGURE 3

T0520-T6256860

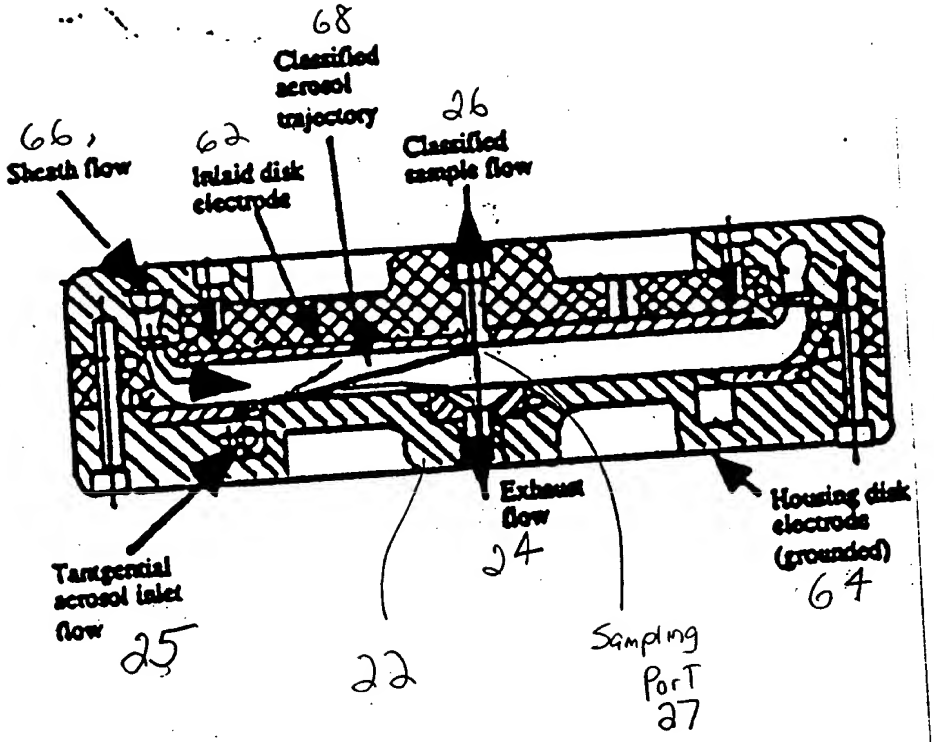

FIGURE 4

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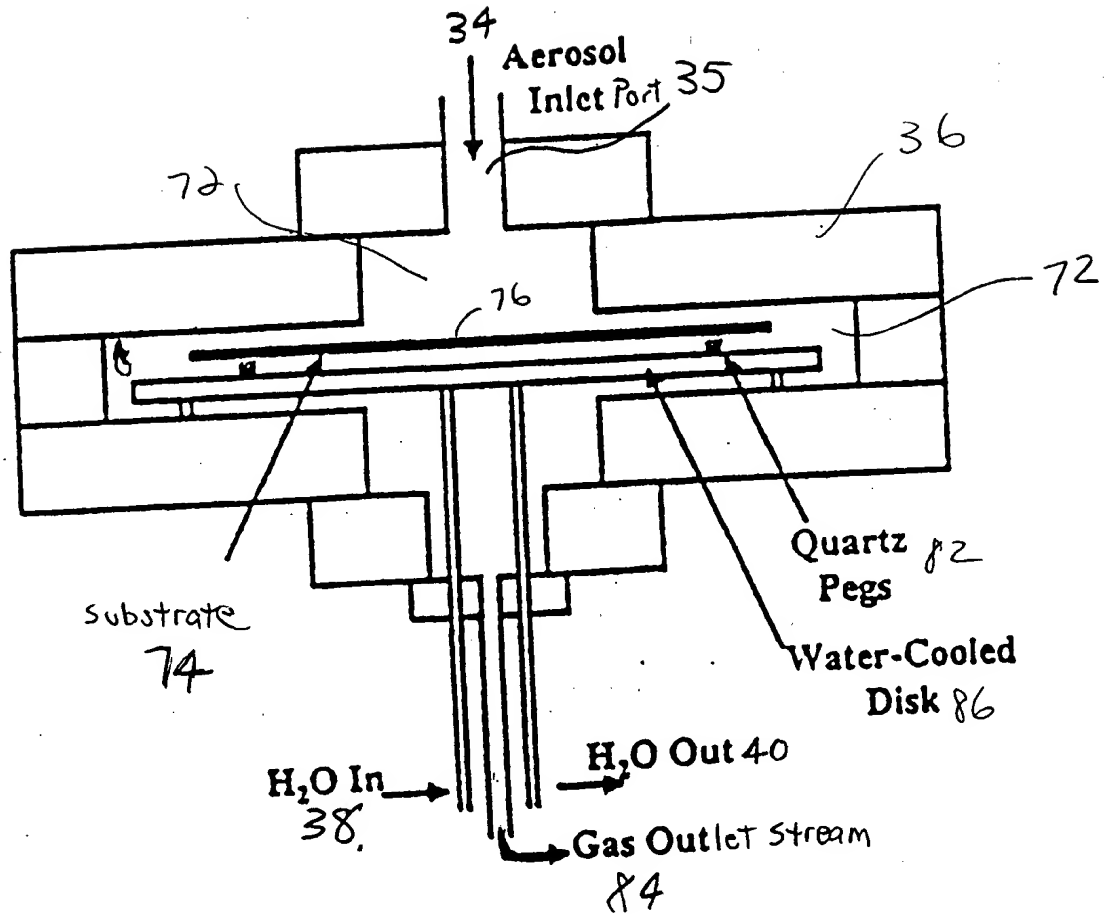

FIGURE 5

FIGURE 6

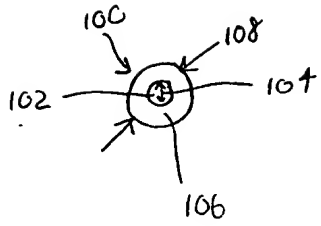

FIGURE 7

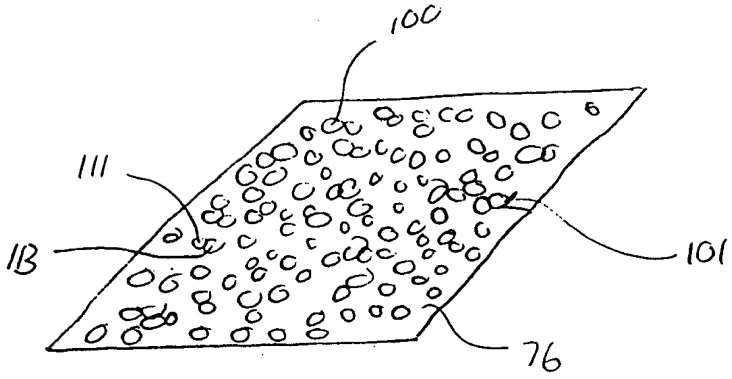

FIGURE 8

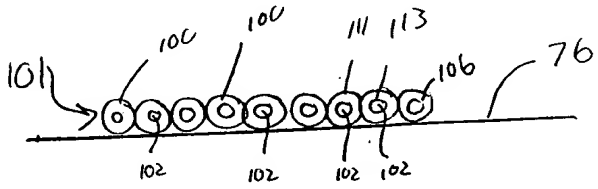

FIGURE 10

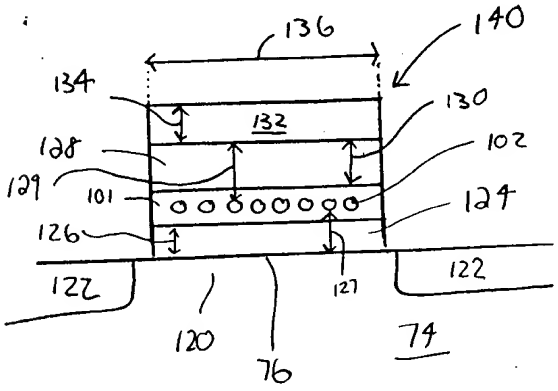

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FIGURE 9

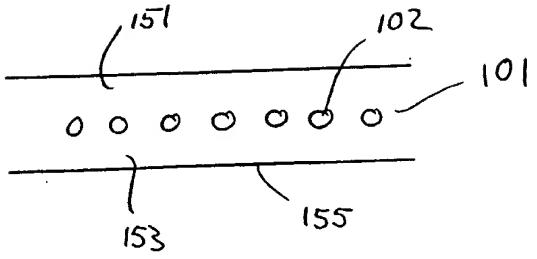
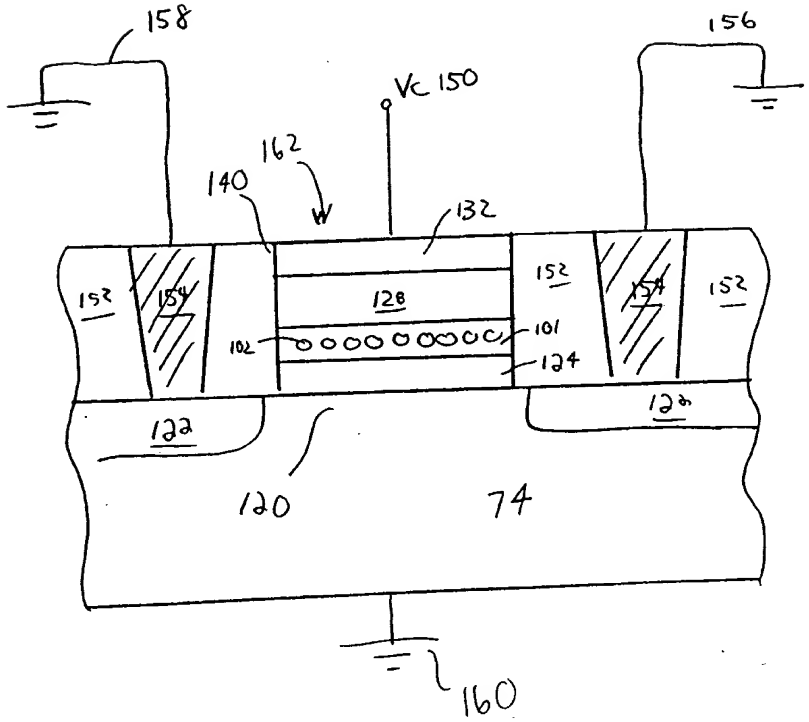


FIGURE 11



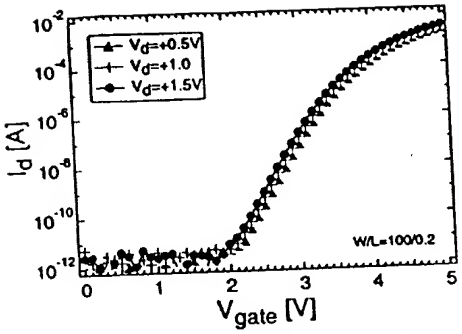


FIG 12 .. Subthreshold characteristics of a 0.2μm n-type aerosol-nanocrystal floating-gate MOSFET (subthreshold slope = 200mV/dec; DIBL = 100mV/V).

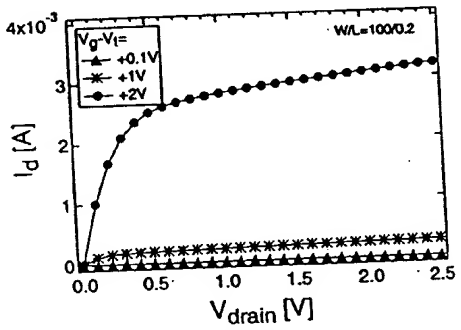


FIG 13 Output characteristics of a 0.2μm aerosol-nanocrystal floating-gate MOSFET; drive current = 30μA/μm.

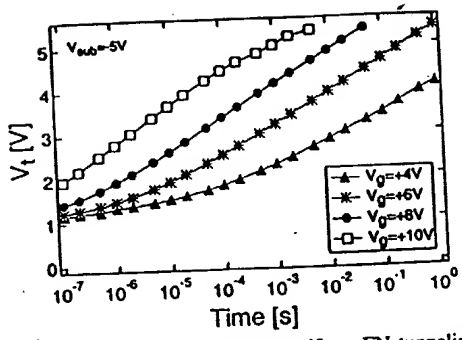


FIG 14 : Programming transients (uniform FN tunneling) of the nanocrystal NVM device.

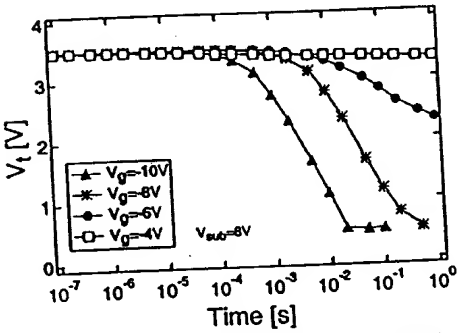


FIG 15 Erase transients (uniform FN tunneling).

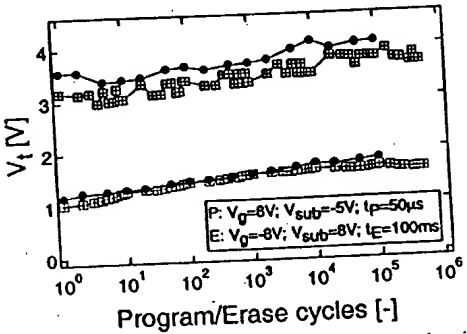


FIG 16 : Endurance characteristic; only limited window closure is observed after 10^5 program/erase cycles.

FUJITSU-SEMICONDUCTOR

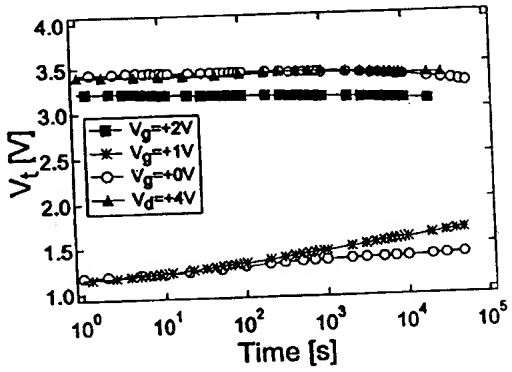


FIGURE 17